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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/942,926	08/31/2001	George Malcolm Swift Joynes	3036/50371	8942

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EXAMINER

JACKSON, ANDRE K

ART UNIT

PAPER NUMBER

2856

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/942,926

Applicant(s)

JOYNES, GEORGE MALCOLM  
SWIFT

Examiner

Andre' K. Jackson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10, 12, 13 and 15-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 13 and 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8. 6) ☐ Other:

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because:

In Figure 1, each of the blocks in the drawing should be labeled with the name of the apparatus. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 7,10 and 17 objected to because of the following informalities:

In claim 7, line 4 --and-- should be inserted after "bands";  
"comparator" should be --comparator--.

In claims 10 and 17 "train gauge" should be --strain gauge--.  
Appropriate correction is required.

### ***Specification***

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4. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

**Arrangement of the Specification**

5. As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (e) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (f) BRIEF SUMMARY OF THE INVENTION.
- (g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (h) DETAILED DESCRIPTION OF THE INVENTION.
- (i) CLAIM OR CLAIMS (commencing on a separate sheet).
- (j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The disclosure is objected to because of the following informalities:

On page 2, line 20 --a-- is needed between "provided" and method.

On page 4, line 11 "utilised" should be --utilized--.

On page 5, line 26 "whilst" should be --while--.

On page 8, line 7 "joins" should be --join--.

On page 16, line 23 "localisation" should be --localization--.

On page 18, line 13 "neighbours" should be --neighbors--.

On page 18, line 25 "motorised" should be --motorized--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

### ***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more

than one year prior to the date of application for patent in the United States.

10. Claims 1-3 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugiyama.

Regarding claim 1, Sugiyama discloses a "Method of detecting a leakage of fluid" which segments the sensed vibrations into two spectral bands (Figure 1a), and compares the amplitudes of the spectral bands with predetermined flow rates (Column 3, lines 30-35).

Regarding claim 2, Sugiyama discloses where attaching a sensor to the fluid system to obtain data indicative of fluid flow (Column 1, lines 36-41).

Regarding claim 3, Sugiyama discloses where the sensor includes a piezo-electric material (Column 1, line 19).

Regarding claim 12, Sugiyama discloses at least one sensor (9,10) mounted on the exterior of a pipe (5) comprising a vibration sensor, a processing unit (17).

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 5,7-10,13 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama in view of Roy (GB 2335041).

Regarding claim 5, Sugiyama does not disclose whether the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses "Detecting leaks in pipes" which has a sensor, which is a hydrophone (26). Therefore, to modify Sugiyama to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of invention as taught by Roy since the use of various acoustic devices is well know in the art.

Regarding claim 7, Sugiyama discloses a comparator (19). Sugiyama does not need the aid of a segmentor since the use of two sensors is used for the detecting of leaks thus making the electrical components of the system more compact.

Regarding claim 8, Sugiyama discloses where the sensor includes a piezo-electric material (Column 1, line 19).

Regarding claim 10, Sugiyama does not disclose where the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses a sensor, which is a hydrophone (26). Therefore, to modify Sugiyama to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of invention as taught by Roy since the use of various acoustic devices is well know in the art.

Regarding claim 13, Sugiyama discloses a vibration sensor for sensing vibrations induced by passage of the fluid through the leakages

(Figure 3), a comparator (19). Sugiyama does not need the aid of a segmentor since the use of two sensors is used for the detecting of leaks thus making the electrical components of the system more compact.

Regarding claim 15, Sugiyama discloses where the sensor includes a piezo-electric material (Column 1, line 19).

Regarding claim 17, Sugiyama does not disclose whether the sensor is a strain gauge, geophone or a hydrophone. However, Roy discloses a sensor, which is a hydrophone (26). Therefore, to modify Sugiyama to include a hydrophone would have been obvious to one of ordinary skill in the art at the time of invention as taught by Roy since the use of various acoustic devices is well known in the art.

13. Claims 4 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama in view of Braathen et al.

Regarding claim 4, Sugiyama does not disclose a sensor includes a PVDF film. However, Braathen et al. discloses a "Digital speed determination in ultrasonic flow measurements" which discloses a sensor includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sugiyama to include where a sensor includes a PVDF film as taught by Braathen et al. since using the film makes for an easier application to the pipe.



Regarding claim 16, Sugiyama does not disclose a sensor includes a PVDF film. However, Braathen et al. discloses a "Digital speed determination in ultrasonic flow measurements" which discloses a sensor includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sugiyama to include where a sensor includes a PVDF film as taught by Braathen et al. since using the film makes for an easier application to the pipe.

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiyama in view of Roy (GB 2335041) as applied to claim 7 above, and further in view of Braathen et al.


Regarding claim 9, Sugiyama does not disclose a sensor includes a PVDF film. However, Braathen et al. discloses a "Digital speed determination in ultrasonic flow measurements" which discloses a sensor includes a PVDF film (Column 1, lines 32 and 33). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Sugiyama to include where a sensor includes a PVDF film as taught by Braathen et al. since using the film makes for an easier application to the pipe.


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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre' K. Jackson whose telephone number is (703) 305-1522. The examiner can normally be reached on Mon.-Fri. 7AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are N/A for regular communications and N/A for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

A.J.   
November 29, 2002

  
DANIEL S. LARKIN  
PRIMARY EXAMINER